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MASTER OF MILITARY STUDIES

TITLE:

The IED: Tactical Solutions for a Tactical Problem

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Executive Summary

Title: The IED: Tactical Solutions for a Tactical Problem

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Thesis: US military culture has generated problem framing errors in the approach to the IED that has in turn yielded an almost pure technological response to the problem. In order to achieve better results against this deadly weapon, the US must revisit the problem through the lens of proven doctrine and service level, visionary guidance.

Discussion: Five years ago, seventy percent of the United States' combat-related casualties in the Long War were due to tactical Improvised Explosive Device (IED) strikes. Today, six years and billions of earmarked dollars later, seventy percent of our nation's combat-related injuries still result from tactical IED strikes. Statistics alone do not reflect increases or decreases in tactical activity, which cause variations in tactical exposure to this threat; however, because of this statistic, the enemy's strategic communication is that the United States, with all its might and capability, is unable to mitigate the effects of the lowly IED.

An explanation for the apparent lack of progress commensurate with the enormous financial expenditure is that the US has made fundamental errors in the assessment of the IED problem. These errors have resulted in the already failed, techno-centric response to the IED problem. This paper begins with a discussion of the vast utility the IED possesses at the tactical, strategic, and operational levels of war. The paper examines how errors in problem framing, resulting from US military cultural influence, have spawned a technological response to the IED. The techno-centric response has ignored basic problems associated with the ineffectiveness of such an approach, which include a decrease in tactical creativity, deviations from maneuver warfare doctrine, and violations of service-level, visionary guidance at the tactical and operational level.

Conclusion: The paper concludes by offering an alternative approach to operating in an IED-rich environment that is consistent with sound doctrine, tested military precepts, and tactical doctrinal definitions. The proposals rely heavily upon small unit tactical shrewdness, doctrinal training, and effective tactics, techniques, and procedures (TTP), which will ultimately result in a reduced emphasis on technology.

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INTRODUCTION

Mines were the best weapon yet to make the regular working of their trains costly and uncertain for our ...enemy.

- T.E. Lawrence, (1922)¹

Five years ago, seventy percent of the United States' combat-related casualties in the Long War were due to tactical Improvised Explosive Device (IED) strikes. Today, six years and billions of earmarked dollars later, seventy percent of the nation's combat-related injuries still result from tactical IED strikes.² Statistics alone may not reflect increases or decreases in tactical activity, which cause variations in tactical exposure to this threat; however, because of this statistic, the enemy's strategic communication is that the US, with all its might and capability, is unable to mitigate the effects of the IED.

An explanation for the apparent lack of progress commensurate with the enormous financial expenditure is that the US has made fundamental errors in the assessment of the IED problem. These errors have resulted in the already failed, techno-centric response to the IED problem. This paper begins with a discussion of the vast utility the IED possesses at the tactical, strategic, and operational levels of war. The paper then examines how errors in problem framing, resulting from US military cultural influence, have spawned an approach that has yielded an almost pure technological response to the IED. The techno-centric response has ignored basic problems associated with the ineffectiveness of such an approach, which include a decrease in tactical creativity, deviations from maneuver warfare doctrine, and violations of service-level and visionary guidance at the tactical and operational level. The paper concludes by offering an alternative approach to operating in an IED-rich environment that is consistent with

current doctrine, tested military precepts, and tactical doctrinal definitions. The proposals rely heavily upon small unit tactical shrewdness, doctrinal training, and employing effective tactics, techniques, and procedures (TTP), which will result in a reduced reliance on technology.

The scope of this work is limited to what the Joint IED Defeat Organization (JIEDDO) refers to as Defeat the Device. JIEDDO is the organization chartered in response to the IED threat. JIEDDO now holds Department of Defense (DOD) mandate to “lead, advocate, and focus all of the Defense Department’s activities regarding the IED.”³ Discussion of all matters pertaining to JIEDDO’s alternate Counter-IED (CIED) Line of Operation (LOO), Attack the Network is excluded.

Also excluded from the paper is discussion of the role that defense industry war profiteering has had on the US response to the IED. There are material needs that are validated requirements in a combat zone and the US defense industry has achieved excellence in terms of providing required capabilities to the warfighter. Nevertheless, the degree to which this element of the discussion has influenced the US response to the IED is an identified, albeit un-quantifiable, contributor to the US failure to achieve success against an enemy who employs IED. Finally, although there are aspects of the paper, such as the section pertaining to problem framing, that are applicable at the operational level of war, discussion and recommendations for tactics and training are largely appropriate at the tactical level only.

AN EFFECTIVE AND EFFICIENT WEAPON

[W]ith a small expenditure of ammunition, large results are achieved.

-Ernesto “Che” Guevara (1960)⁴

[T]he single most effective weapon against our deployed forces [is the IED].

-Defense Department Official (2007)⁵

The IED is the “weapon of choice” for the insurgent.⁶ Former JIEDDO Director, US Army Lieutenant General Thomas F. Metz concurs with this aspect of problem.⁷ Anyone who has witnessed the effectiveness of the IED would conclude that it should be the weapon of choice. Today’s insurgent has accumulated almost two-thirds of US combat-related fatalities with the IED and an even larger percentage of casualties.⁸

The IED is the preferred weapon of the enemy because it is inexpensive. In terms of supply and demand, the materials (electronic, mechanical, explosive) that comprise an IED are readily available within even the most austere commercial markets. As IED strikes increase, a reduction in the proportion of strikes that are successful occurs.⁹ The slight decrease in the percentage of effective strikes is a factor of little value because the insurgent still stands to accomplish much with so little effort. Although the actual average price of an IED remains classified, the cost to benefit ratio for the insurgent who employs the IED is approximately 1 to 10,000.¹⁰ The result is a simple, effective, and relatively inexpensive weapon that has wrenched almost \$18 billion (equipment costs alone) and counting from US taxpayers.¹¹ This expenditure has resulted in a near-imperceptible decrease in the percentage of IED-related casualties. The expenditure might be acceptable if, because of massive spending, the IED was becoming less tactically, operationally, and strategically effective; nevertheless, this is not the case.

Strategically, the enemy employs the IED to erode the counterinsurgent’s will to continue the Long War. The casualties and images produced by the employment of the IED attack reverberate far beyond the concussion radius of the blast. The chaos produced

by the IED directly plays into the published insurgent strategy of “vexation and exhaustion,” and serves to convince the international community that support for the counter-insurgent is futile.¹² The attack alone demonstrates to those contributing economic and/or political capital to the insurgent effort that their investment is paying dividends. Finally, at the strategic level, a successful attack contributes to the insurgent common narrative: strategic victory is possible and perhaps inevitable through protracted war.

Operationally, the insurgent employs the IED as an explosive obstacle to address the relative advantage of operational mobility held by the counter-insurgent.¹³ The insurgent also operationally employs the IED to divide the counter-insurgent from the population base, and to compensate for training, force protection, and logistics shortfalls relative to the counter-insurgent.¹⁴ The IED slows and impedes both tactical and operational ground maneuver, forcing counter-insurgent commanders to dedicate resources, personnel, and time simply to obtain freedom of maneuver. The threat of the IED, those who emplace and trigger them, psychologically isolates the counter-insurgent from the population base.¹⁵ The effect is an isolating wedge that is priceless to the insurgent. From a training perspective, the IED is easier to employ than a weapon requiring precision marksmanship. It is therefore easier and cheaper for the insurgent to train a man to emplace or initiate an IED than to develop skilled marksmen. From a force protection point of view, the insurgent enjoys much greater survivability upon the contact with the counter-insurgent when employing an IED than he may realize while engaged in more traditional, direct fire contact with the counter-insurgent. Finally, IED components

(electronic and Home Made Explosive (HME) components) are in virtually endless supply, rendering the IED the easy choice from an Operational Logistics viewpoint.

Tactically, the insurgent still employs the IED because he retains the option and the initiative. The insurgent technique has proven and remains effective due to US unwillingness to develop a legitimate tactical response. Moreover, the IED threat creates irrational trepidation and ambiguity at the tactical level, both among the counter-insurgent, as well as those elements of the population that he is there to protect. The IED is a stark reminder to all stakeholders that there are no clear outcomes to the conflict.

The IED is the chief tool in the insurgent toolbox across all levels of war. The success of the IED has elevated it into position to serve as the basis for insurgent tactical and operational plans. The IED also comprises much of the substance of his strategic communication-focused strategy. In fact, IED employment is foundational to Taliban Leader, Mullah Omar's 2009 guidance to the Taliban-based insurgency in Afghanistan.¹⁶ In summary, the insurgent tactical, operational and strategic preference for this weapon and the counter-insurgent response to it serves to transform the IED into a problem that DOD continues to face in spite of what appears to be a best effort.

ISSUES WITH TECHNOLOGICAL SOLUTIONS TO TACTICAL PROBLEMS

[A]merican military culture... emphasizes...an industrial approach to war ... and technology-intensive approaches to combat.

- Thomas B. Mahnken (2008)¹⁷

As introduced earlier, the concept that the counter-insurgent can "buy" the capability to operate in an IED-rich environment without a change in tactics is proving ineffective. The counter-insurgent comes by this idea honestly. It is no surprise that US military culture influences all aspects of training and operations. Deeply ingrained in the

military culture is the suggestion that nearly all tactical problems are solvable, while still meeting our nation's sense of immediacy, with the liberal application of firepower, money, and/or technology.¹⁸ Strategist David Lonsdale continues the common narrative with his declaration that US military culture demonstrates tendencies to seek technological remedies to almost any conceivable discomfort and to "remove... [the] human from the sharp end of war."¹⁹ He prudently concludes with a pointed warning against this aspect of US military culture arguing that this perspective is in direct conflict with the nature of war and often ignores friction.

Although it is difficult to separate the impact that culture has had on US efforts to solve the IED problem, even organizational sub-culture has contributed to the techno-centric imbalance. JIEDDO's original mandate was to take a holistic approach to solving the problem.²⁰ The original plan envisioned three major, equitable efforts to neutralize the IED threat. Defeat the Device was one of these efforts along with Attack the Network and Train the Force. Jackie Fabrizio, JIEDDO Red Team Terrorism Analyst posits that while this approach was prudent in theory, in practice each JIEDDO LOO, "while playing to their respective strengths", tended to frame the problem in a manner favorable to itself. An unbalanced approach resulted.

Despite the imbalanced approach, a techno-centric approach has increased the probability that US service members will survive an IED attack. However, this approach has continued to provide tactical, operational, and strategic victories for the insurgent while doing little to reduce coalition casualties. The aforementioned ideas of immediacy and technological answers to tactical problems permeate the American way of war and have born problem framing errors.

THE PROBLEM FRAMING ISSUE

*The technique of lying in ambush along roads in order to explode **mines** and annihilate survivors is one of the most remunerative in point of ammunition and arms.*

- Ernesto "Che" Guevara (1960)²¹

[T]he very terms in which the government officials thought about the problem crippled their ability to deal with it appropriately.

- Jeffrey Race (1972)²²

In a published interview with senior DOD leadership engaged in CIED activity, two fundamental misunderstandings of the IED problem emerge.²³ The culture has come to view the IED as a complex system or network that can be "defeated". By form and function, the IED is a weapon. Weapons themselves are not subject to the same definition of defeat as are the individuals and/or networks employing them.²⁴ Currently, US doctrinal definitions pertaining to the concept of "defeat" do not allow for the term to be applied to weapon systems. In other words, people and nations may be "defeated" whereas weapon systems may be "destroyed" or "neutralized". The published interview also reveals the misperception that the ambush itself is a weapon. The reality is that the ambush is a technique or a form of attack, which may be defeated.²⁵

Problem framing errors extend beyond mere doctrinal definitions. Further highlighting errors in DOD problem framing, one senior CIED leader's remarks indicate a potential systemic misunderstanding of the IED.²⁶ In the published analysis, after an IED strike, there is no strategic win for the insurgent if there is no casualty associated with the strike. Believing that simply preventing casualties alleviates an insurgent strategic victory is problematic. There are three issues connected to this conviction.

First, casualties are irrelevant when applied to the insurgent's strategic main effort: Information Operations. There does not have to be a single coalition casualty for the

insurgent to claim many casualties. The story and all-too-common narrative is the explosion, the burning vehicle hulk, the local perception of insecurity, the presence of violence, and the “possibility” of casualties, both military and civilian. These aspects *are* the strategic victory. If removing the casualties could produce less of a strategic victory for the insurgent, removing the vehicle would go even farther to deny the victory.

Second, the counter-insurgent’s goal must be broader than to simply deny an insurgent strategic victory. The insurgent tactical victory still emerges regardless of the success of the associated attack. Even without casualties, the insurgent victory robs the counter-insurgent of time, equipment, the political will of coalition partners, the trust of the population, and the respect of the indigenous security forces he is there to develop.

Third, and arguably the most important, is that regardless of the body count the IED has done its job. Irrespective of the battle damage assessment at the tactical level, the IED, for very little investment, has disrupted operations. It has cost the US taxpayers billions of dollars in equipment. It has sewn the seeds of doubt among any passer-by who may be friendly to the insurgent cause. The IED has set the stage for images of wreckage and US tactical defeat for exploitation via any form of media available. In short, the very presence of the IED, given the current DOD approach to it, is a strategic victory for the insurgent and absolutely negatively impacts the strategic environment. More importantly for US personnel, the DOD techno-centric problem framing errors have failed to address or have led directly to the following second-order effects.

THE ISSUE OF INSURGENT ADAPTABILITY

[T]he enemy is adapting his [IED] TTP’s faster than we are adapting our own... [t]he Flintstones are adapting faster than the Jetsons.

Today's insurgent changes and adapts his IED employment techniques and procedures far more quickly than the most efficient industrial base can produce countermeasures. A 2008 report to Congress on the progress of the DOD-wide effort to defeat the IED reflects this historical tenet of insurgency.²⁸ It is also commonly known among all International Security Assistance Force (ISAF) stakeholders that if an insurgent discovers his IED is vulnerable to techno-centric countermeasures, he can easily purchase commercial, off the shelf solutions on the open market to remedy the problem.²⁹

In the war-gaming equation of action, reaction and counter-action, insurgent adaptations are even more likely to be successful when the variable of counter-insurgent tactics does not substantively change. In short, counter-insurgent techno-centric deviations, seeking to gain initiative over the insurgent, fail to account for the insurgent's ability to counter them rapidly and efficiently. No other fact more adeptly demonstrates insurgent ability to retain the initiative than a NATO unclassified 22 December 2009 "State of the Insurgency" brief. The report indicates that IED-related casualties, in spite of NATO's best technological efforts, have climbed steadily from 326 in 2004 to 6037 by Dec 2009.³⁰

ISSUES WITH COUNTERINSURGENT RIGIDITY

[E]xpand lethal IED and high profile attacks to deny International Security Assistance Force (ISAF) freedom of movement.

- Mullah Omar (2009)³¹

The insurgent does not yet have to develop a counter to a change in counter-insurgent tactics at the macro level. Although there are many notable small unit, tactical adaptations to the IED threat (some of which will serve as recommendations below), collectively, the counter-insurgent still conducts mounted operations in areas of high IED activity with less than prudent preparatory measures. Simply developing more effective armor, V-shaped blast-resistant vehicles with capable sensors, or a more complex jammer is not sufficient to mitigate the threat posed by the IED.

The Systems Theory notion of “sub-optimization” is germane to the IED case study in general and the idea of counter-insurgent rigidity in particular. The idea holds that effective organizations can tend toward ineffectiveness when they unbendingly perpetuate the idea that “if X is good, more X is better”.³² In due course, a propensity to rely too heavily on a perceived strength (US capability to generate technological solutions to assist the warfighter) can actually become a self-destructive limitation. The theory of sub-optimization seems to have the DOD approach to the IED problem in mind when declaring that “an increasingly monolithic culture produces an ever-decreasing set of alternatives and a narrow path to victory.”

JAMMING ISSUES

Jamming and pre-detonation doesn't work all the time and can develop a false sense of security.

- LtCol Greg Lemons CENTCOM -J3, Force Protection, Plans and Policy Chief (2009)³³

Prominent along the US path to achieving of an “acceptable level of violence” in Iraq, are the counter-remote IED electronic warfare devices, or “jammers.”³⁴ There are several difficulties with this purely technocentric, defensive technique. In addition to the

aforementioned unreliability, the US service member, upon successfully jamming a remote detonated IED, may not know they have done so – often leaving the IED behind for some other unsuspecting road-bound traveler. Moreover, electromagnetic interference is often responsible for actually degrading or negating jamming performance.³⁵ The electromagnetic fratricide phenomenon is particularly prevalent in operating areas with significant amounts of Joint and Combined operational activity. Finally, the acceptance of the pure technological response to the IED at the tactical level has inadvertently perpetuated ineffective training and caused the atrophy of small unit tactical competence.

TRAINING ISSUES

Too many commanders are tied to their MRAPs and jammers and put their troops in harm's way.

- Wade Ishimoto, USA, SF (Retired) (Desert One S-2) (2010)³⁶

Unfortunately for the warfighter, DOD problem framing errors may also be reflected in US military pre-deployment training. For example, JIEDDO training efforts focus on the following initiatives: 1) EW Training, 2) Senior Mentor Program, 3) Home Station Training Support, 4) International and Interagency Engagement, 5) Coalition and Partner Training, and 6) Tactical Training Support (TTS). Within the TTS function, “teams advise commanders on how best to organize to attack IED networks, provide C-IED battle staff training, and support the development of tactical-level C-IED training.”³⁷ Nowhere in this formalized training will the student encounter the doctrinal foundation to approach all IED scenarios: that the IED, by form and function, is a mine and that the road is potentially an active mine field and therefore is a “surface” to be avoided unless

deliberate plans are developed to operate within its borders. A November 2009, San Diego *Union-Tribune* article highlights techno-centric training reflective of the DOD approach. Apparent in the article, US Marines become conditioned and comfortable in the enemy's kill zone- the road.³⁸ This well-intentioned training, constructed upon the DOD erroneous problem framing further impedes the counter-insurgent's ability to tactically adapt and contributes to insurgent success.

Unfortunately, acceptance of the road or trail as a viable and/or initial maneuver route is a common, albeit unintended theme in most CIED training events. Even costly simulation systems that develop the participant's skill in identifying key IED indicators, inadvertently condition the participant to operate within the linear danger area. These training systems traditionally do not challenge the participant to ask: Can I do my mission elsewhere? Do I have to take this route? What have I done to prepare this route for my use?³⁹ In short, techno-centric expenditures have conditioned the warfighter to be more at ease in the very location where he should be the most uncomfortable - on the road behind his armor.⁴⁰

In their 2008 Annual Report, JIEDDO highlighted the year's accomplishments.⁴¹ Albeit impressive, there remains no significant training emphasis on the doctrinal and foundational concept of IED avoidance other than standard recognition of IED indicators and "5s and 25's" (a defensive visual technique performed in an effort to identify an IED with which you may have already closed). According to a recent Government Accountability Office (GAO) Report, JIEDDO has decided what technologies they will continue to develop, but is apparently unsure which long-term training initiatives the organization intends to fund.⁴² As the DOD executive agent for CIED activity with a

near \$500 million training budget, JIEDDO owes the warfighting customer diligent attention towards the single most effective way to escape the effects of the IED - *not be co-located with one*.

The very equipment given to the warfighter serves to hobble both his understanding of the problem and the range of possible tactical solutions to it. In concert with US military culture and DOD technological approach to problem solving, the warfighter has come to trust his survival to superior technology alone. Indeed, according to LtCol Fred Prochaska, JIEDDO Red Team Chief, “we have shackled the tactical decision maker by handing him an MRAP”.⁴³

Technological solutions abound. As of 2009, JIEDDO alone has produced in excess of 15,000 electronic jammers (most designed for vehicle use).⁴⁴ The organization has produced numerous Cougar vehicles designed to assist in road clearing efforts (from the road). Also, relatively new to the technological tool kit, is the Joint IED Neutralizer. This device impedes IED components with directed energy fields. JIEDDO has also helped to field vehicle-mounted systems that can sense IED’s inside of structures, sensors such as the Laser Induced Breakdown Spectroscopy System (LIBS), which seeks to detect explosive residue from a distance, and a 2010 project, which seeks to destroy the IED from a vehicle, with a laser. In short, the very systems procured create a false sense of security and unwittingly promote road usage.

ISSUES PROTECTING CIVILIANS AND INDIGENOUS SECURITY FORCES

More [Afghan] civilians are killed as a result of insurgent suicide bombings and IED’s than any other violent act.

*- IED Watch (2009)*⁴⁵

Commander, ISAF/US Security Forces Afghanistan, Lieutenant General Stanley A. McCrystal's 2009 guidance to combat troops in Afghanistan continues to direct the "population-centric" counter-insurgent narrative.⁴⁶ This was the US strategy in Iraq and remains the NATO strategy in Afghanistan. Technically, US financial expenditures are not indicative of this policy. In 2007, JIEDDO's budget was \$ 4.393 billion.⁴⁷ Of that amount, none went directly to developing countermeasures that protect the populace, a US recognized counter-insurgent strategic center of gravity since 2004. Across the border in Pakistan, "865 security forces and officials [were] killed by suicide bombs and IED in 2007."⁴⁸ Security of the population is supreme, the IED is the primary threat to the population, but technology alone cannot mitigate the threat. Clearly, an alternate approach is required.

JIEDDO budget fails to support another aspect critical to NATO strategy in Afghanistan: partnership with local security forces. As of September 2009, IED have struck and killed more Afghan security forces than ISAF personnel.⁴⁹ Despite these highly effective attacks on what has been the US friendly operational center of gravity, DOD efforts to safeguard indigenous security forces in general, and against the IED specifically, have been ineffective. Right or wrong, along the current model, the DOD collective answer to the problem of how to protect local civilians and security forces will most likely be sought from the technical arena. However, as one member of the JIEDDO Red Team points out, "if one half of a Person Born IED (PBIED) is a person, how can a purely technological response be the answer?"⁵⁰

ISSUES ENCOUNTERED IN DEPARTURE FROM DOCTRINE

IEDs are like AAFES, they go where we go.

- JIEDDO Red Team Chief (2010)⁵¹

MCDP 1-0 states, "Maneuver warfare is based on the avoidance of a surface".⁵²

The IED is found where it is most likely to find the counter-insurgent – usually roads and trails or established routes. It is therefore not a stretch to identify these areas as a "surface." However, the DOD current approach to the IED is akin to the continued ineffectual pounding of a surface.

If the DOD were to approach the problem of the IED from a doctrinal viewpoint, a typical unit, operating in an environment where the device was a threat would treat them as a mine in accordance with the doctrinal definition offered in Field Manual (FM) 20-32 *Mine, Counter-Mine Operations*.⁵³ Subsequently, the unit would treat the road as a minefield, and seek to adhere to the tenets of counter-mine operations set forth in the same publication: bypass, breach, and deny.⁵⁴ This is not to state that roads are no longer viable route options, but that the warfighter should view the roads for what they are: the most likely location for an IED attack.

The affect of an approach built on a doctrinal foundation would be small unit leaders who would seek a tactical solution to the presence of the IED on the battlefield. As such, selection of the road might be the last resort for maneuver. When the road, trail, or chokepoint was indeed the only option, the warfighter would seek to clear and hold or observe it as time and resources allowed. When or if this proved untenable, the warfighter would seek a more holistic approach and employ TTP akin to route randomization, culvert denial, dismounted lead and/or flank elements, tactical overwatch,

V-sweep with advanced detection methods such as IED Detector Dogs (IEDD) and metal detectors followed up by mine rollers and over-watched by mutually supporting jammers.

Today's response to the IED has served to make the warfighter and his supporting organization less expeditionary and heavier. In a recently published interview with the Director of Marine Corps Systems Command, Brigadier General Michael Brogan stated that the Marine Corps is looking to "balance levels of protection in order to maintain the agility, mobility and lethality of our Marines."⁵⁵ The current Defeat the Device approach which manifests itself in heavier vehicles, bulkier personal protective equipment, and costly electronic devices with demanding maintenance needs flows "counter to DOD transformational goals of becoming a lighter and more agile force."⁵⁶

There exists another negative by-product of increasing armor and post-blast protective equipment to the counter-insurgent. According to recent unclassified NATO report, the very presence of larger, more armored vehicles proportionately increases the size of the average main charge weight of an IED.⁵⁷ This intuitive insurgent response to escalating armor weight not only achieves the same results against heavier counter-insurgent vehicles, it has now made survivability less likely for both dismounted patrols as well as for vehicles without enhanced armor protection.

What's more, US responses to the IED do not nest with population-centric counter-insurgent strategy. Through the erection of barriers (armor and larger vehicles with more intrusive antennae), the counter-insurgent isolates himself from the target population.⁵⁸ A career police officer specializing in gang and counter-narcotic activity in large urban areas and former US Marine had this to say about the existence of barriers between the counter-insurgent and the population: "The police patrol car was the first

barrier between the law enforcement officer and the people he must protect and serve.”⁵⁹

US military vehicles today can be an advanced, heavily armored, and graduated form of the “patrol car”. Barriers serve to isolate the counter-insurgent from the population and are counter-productive to published strategic end-states in Afghanistan.

Lastly, the force’s increasing weight and logistic requirements have driven the Marine Corps further away from its commitment to Core Competencies, grounded in expeditionary character and amphibious capability. As new technology requires maintenance beyond organic capabilities and as increased armor stresses both cubic space and weight conditions aboard amphibious shipping, the USMC takes steps in the wrong direction. This byproduct of a techno-centric IED approach has lessened the expeditionary nature of the service by increasing logistic requirements and has made it less likely that a Marine unit will simply “fit” on amphibious shipping. An alternative is required that would help the Marine Corps “go on a diet” and achieve what the Commandant of the Marine Corps calls the “target weight” for the “lighter, lethal, and austere” operations predicted for the future.⁶⁰

RECOMMENDATIONS: THE THREE T’S

It cannot be sufficiently stressed that superior thinking is far more important than technology. Balance is the key.

—Milan Vego⁶¹

Thinking

In order to succeed against a foe that uses the IED, a re-examination of the problem must occur. This second look must be informed by an honest review of DOD

recent failures to mitigate the threat of the IED. DOD must recognize the influence that US military culture has on decision making and take subsequent steps to frame the IED problem in terms that match joint doctrine and demonstrate understanding of the problem at all levels of war. The reassessment must include a balanced deference to today's combined/joint operating environment and service-chief guidance for the future. It naturally follows then, at the operational and tactical level that planners and executors will think holistically, viewing the IED through the lens of doctrine - as a weapon to be avoided and fought through only if all other holistic preparatory measures fail.

TACTICAL LEVEL TRAINING

IED training must reflect a return to the basics of maneuver warfare decision making. For example, tactical trainees should be placed in repetitive situations where he must select the route (where) and by what method (how) to get to his destination. Trainers should design training scenarios that inflict negative consequences to road usage when other options may be available or when incomplete tactical preparatory measures are attempted. Simulators should include options that do not rely on the use of roads. Instead of by-products that create a sense of acceptability to road usage, the trainee should sense uneasiness every time the road and his selected route intersect.

Stop training to merely take the punch and begin training to avoid the punch. As has been demonstrated in the above section, much of what DOD refers to as CIED training today, is defensive in nature. As has been identified, these training evolutions involve familiarization with systems and or TTP that help the warfighter accept the blast with minimum effect, react to the blast with efficiency, spot a near IED, and operate and trouble-shoot jamming devices. CIED training, reflective of a holistic approach, needs to

incorporate offensive and defensive tools in combined arms fashion. In other words, defensive tools should complement offensive tools. Training systems should evaluate to what degree the trainee incorporated deception (did the trainee increase or decrease the insurgent's ambiguity about where he might travel or by what method and formation he might select), tactical cunning and curiosity, and offensive over-watch (overt and covert) to name a few. Lastly, CIED training commensurate with a holistic approach, should evaluate the degree to which the trainee understands the enemy's plan to strike him.

Liberal use of the insurgent's kill zone, when not purely indicative of tactical lethargy or incompetence, generally indicates a lack of understanding of and respect for insurgent objectives.

TACTICS

The tactical decision maker should return to and embrace the tenets of Maneuver Warfare Doctrine, seeking the least resistance to tactical movement. The commander who seeks gaps would avoid pitting counter-insurgent weaknesses against insurgent strengths. He would identify and seek to avoid other "surfaces." The most obvious of these surfaces is the IED. Slightly more obscured is the idea that, for the most part, because the IED can be found where the counter-insurgent is expected to be (at least for today), the IED is in the road or chokepoint. Tomorrow, insurgents will still strive to emplace the IED along our most-likely paths of movement. Today however, unless there is a change in operational and tactical approach to the IED, the decision of where to emplace the IED is a relatively easy one for the insurgent.

One who adheres to the tenets of maneuver warfare will also vigorously seek out, identify, and exploit gaps as a combat multiplier. He will take measures to create his own

gaps using the growing family of route clearance devices. Additionally, he will be creative in the production of gaps by deliberately avoiding specific routes until he is ready to use them in support of a pre-identified purpose such as a casualty evacuation or the employment of a Quick Reaction Force (QRF). With tactical cunning, the maneuverist may create a gap by overtly "clearing" a path with no intention of using it to cause the insurgent to dedicate resources to guard an apparent future route. Diligent to identify surfaces and gaps, the maneuverist will avoid falling prey to his own patterns by maintaining records of routes taken and routes avoided or "honesty traces." Route randomization and other TTP to increase insurgent ambiguity will promulgate increased dismounted efforts like the V-sweep, flankers, and culvert and route denial.

Those that view the IED problem through the lens of maneuver warfare and who deliberately and with tactical purpose, choose to be in the road will further develop tactics born of the ideas presented in the preceding training section. He will take a combined arms approach to the IED problem. As the tactical situation allows, he will continue to attack IED networks when they impede tactical objectives (or are likely to in the future). The maneuverist will slow driving speeds. He will seek route ownership and overt/covert over-watch of his routes. He will seek to increase the insurgent's ambiguity about the details of his movement or deliberately decrease the insurgent's uncertainty by contributing to a falsehood the insurgent is ready to believe. When tactically appropriate, he will seek local leadership's approval for mounted operations in an area. He will use mine rollers and CIED Detector Dogs. He will responsibly employ all armor protection and all electronic tools at his disposal to support deliberate tactical movement.

Recent data confirms the current operating environment is ripe for a tactics-based, technology-supported approach to the IED problem. In a January 2010 interview, Marine Corps Combat Development Command's Current Operations Advisory Support Team in Quantico, Virginia, citing unclassified sources, highlighted one Afghanistan-based battalion's mastery of a holistic-approach to the IED problem.⁶² Through a maneuverist approach to the IED, the battalion has established an all time high percentage of IED finds for both Iraq and Afghanistan. As the unit operated largely dismounted, Marines experienced fewer IED-related casualties than their more techno-centric adjacent units. The unit sustained fewer vehicle losses and experienced many positive side effects of being close to the population while executing a population-centric counterinsurgency strategy.⁶³

CONCLUSION

Billions of dollars have been spent. 80-85% of our casualties are still caused by the IED. Something we are doing is wrong. Let us not fall in love with the next piece of technology.

- Col Mike Killion USMC, Marine Corps Tactics and Operations Group (2009)⁶⁴

This paper has illustrated how the IED is a tactical problem with strategic implications and has explained why the IED remains the insurgent weapon of choice across the levels of warfare. Through a more detailed understanding of the cultural forces that shape the manner in which the US tends to solve problems, several errors in IED problem framing have surfaced. Because of the misunderstandings associated with the nature of the IED, several negative impacts have arisen to include a failure to address insurgent adaptability, counter-insurgent rigidity, jamming, protecting strategic centers of

gravity, tactical training and thinking, and deviations from maneuver warfare doctrine and stated service-level visionary guidance.

A careful and critical re-analysis of the IED problem through the lens of years of failure, recently observed successes, and proven doctrine must generate a shift in training methodologies, tactical thinking, and approaches to the IED problem. Through the application of this foundational, more holistic, less technocentric, balanced model, the warfighter will be better equipped to operate in the IED-rich environment of the future.

Notes

¹ Robert Bryce, "Man Vs Mine", *The Atlantic Monthly*, Jan/Feb 2006, 44.

² This statement is compiled from ideas and statistics presented in: Andy Oppenheimer, "Trying to Stay Ahead of the Bombers", *Military Periscope.com*, 1. and CRS Report for Congress: "IED's in Iraq and Afghanistan: Effects and Countermeasures", Feb 2008, and John J. Kruzell, "Influx of US Troops in Afghanistan to be Met With Rising Violence", *Defense Link News*, March 2009, 1. The generation of the seventy percent figure is the author's estimate. While there is much evidence to support a claim to much higher percentage of casualties from the IED (See Col Killion's remarks in note 63), the average number among the more conservative claims is approximately seventy percent.

³ LtCol Fred Proschaska, JIEDDO Red Team Chief, Personal Interview, 14 Jan 2010, Red Team HQ, McClean, Va.

⁴ Che Guevarra, *Guerilla Warfare*, 3d Edition, SR Books, Lanham, MD, 1997, 62.

⁵ Rick Atkinson, "Left of the Boom: The Struggle to Defeat Roadside Bombs", *Washington Post*, 11 Sept, 2007, 1.

⁶ LtCol Robert W. Sadowski, "Joint Improvised Explosive Device Defeat Organization: Anomaly or Future Roadmap?" US Army War College, 1.

⁷ LtGen Thomas Metz, <http://www.special-operations-technology.com/sotech-home/95-sotech-2009-volume-7-issue-1/737-lieutenant-general-thomas-f-metz.html> - accessed 14 December 09

⁸ Atkinson, "Left of the Boom", 1.

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¹⁰ Trisha Martinelli, CTR, JIEDDO Red Cell, Personal Interview conducted 7 January 10.

¹¹ USGAO, “Actions Needed to Improve Visibility and Coordination of DOD’s Counter-Improvised Explosive Device Efforts”, accessed 16 Dec 09,

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¹² Abu Bakr Naji, *Management of Savagery: The Most Critical Stage Through Which the Uma Will Pass*, trans. William McCants, (Cambridge, MA: Harvard University Press, 2006). 22.

¹³ Maj Dan Zappa, USMC, MC Combat Development Command, Current Operations Advisory Support Team, Personal Interview, Quantico Virginia, 27 Jan 2010.

¹⁴ Larry Adams, TTECG Academics Officer, Personal Interview, Quantico, Va, 14 Jan 2010.

¹⁵ Bryce, “Man Vs Mine”, 46.

¹⁶ MG Michael Flynn, Director of Intelligence, ISAF 22 Dec 09. Mullah Omar’s quote taken from MG Flynn’s UNCLASSIFIED brief on the “State of the Insurgency: Trends, Intentions, and Objectives”.

¹⁷ Thomas B, Mahnken, “US Strategic Culture”, taken from USMC CSC, Culture and Interagency Operations 4103, 149.

¹⁸ Dr Doug Streusand, Culture and Interagency Operations, Lecture, CSC, September 2009.

¹⁹ David J. Lonsdale, *The Nature of War in the Information Age*, New York, Frank Cass, 2004, 9, 211.

²⁰ Jackie Fabrizio, JIEDDO Red Team Member, Terrorism Analysis, Personal Interview, McClean, Va, 14 Jan 10.

²¹ Guevarra, *Guerilla Warfare*, 62. Emphasis mine.

²² Jeffrey Race, *War Comes to Long An*, University of California Press, Los Angeles, 1972, 152.

²³ <http://www.special-operations-technology.com/sotech-home/95/sotech>, accessed 14 Dec 09, 2.

²⁴ FM 1-02, *Operational Terms and Graphics*, Department of the Army, Sept 2004, 1-54.

²⁵ FM 1-02, 1-10 defines “ambush”

http://www.humansecuritygateway.com/documents/JIEDDO_AnnualReport2008.pdf, accessed

16 Dec 09, 3. The interview is indicative of JIEDDO’s views regarding the difference between a weapon and a technique. Interestingly, Che Guevara agrees with FM1-02.

²⁶ <http://www.special-operations-technology.com/sotech-home/95/sotech>, accessed 14 Dec 09, 2.

²⁷ Bryan Pena, “Under the Umbrella”, *Marine Corps Gazette*, May 2007, 22.

²⁸ Clay Wilson, *CRS report for Congress*, “IED’s in Iraq and Afghanistan: Effects and Countermeasures”, 8 Feb 2008, 3.

²⁹ John Moulton, USN, “Rethinking IED Strategies: From Iraq to Afghanistan”, *Military Review*, July-August 2009, 27.

³⁰ Flynn, MG, “State of the Insurgency”, 9.

³¹ Flynn, MG, “State of the Insurgency”, 9.

³² Jamshid Gharajedajhi, *Systems Thinking: Managing Chaos and Complexity*, Butterworth-Hetnamann, London, 2006, 6.

³³ LtCol Greg Lemons, CENTCOM J-3 Force Protection/Plans and Policy Chief, Personal Interview – 20 Oct 2009.

³⁴ Col Craig Tucker, USMC, RCT 7, Al Asad, Iraq, Sept 2004, in response to a request to define victory.

³⁵ Wilson, *CRS report for Congress*, 5.

³⁶ Wade Ishimoto, Special Assistant to the Undersecretary of the Navy, Personal Interview, Quantico, Va, 3 Feb 2010.

³⁷ JIEDDO Annual Report, FY 2007, 15

³⁸ Jeanette Steele, “Defusing the Threat”, San Diego *Union-Tribune*, November 15, 2009. 1.

³⁹ http://www.humansecuritygateway.com/documents/JIEDDO_AnnualReport2008.pdf,

accessed 16 Dec 09, 13 For a detailed look at a “recommended” IED Lane training event which condition participants to road usage, see “IED-Defeat Bulletin I”, Center for Army Lessons Learned, Feb 09,65.

⁴⁰ Personal Notes from 2.5 yrs at TTECG, Twenty-nine Palms, Ca.

⁴¹ JIEDDO, Annual Report2008.pdf, 12.

⁴² USGAO, “Actions Needed”, accessed 16 Dec 09

http://www.humansecuritygateway.com/documents/GAO_DOD_Counter_IED_Efforts.pdf, 7.

⁴³ Proschaska, JIEDDO.

⁴⁴ Wilson, *CRS report for Congress*, 4.

⁴⁵ “IED Watch”, Summary of Strategic Environment, Volume 2, Issue 8, 5.

⁴⁶ Gian P.Gentile, “Strategy of Tactics: Population-Centric COIN in the Army” Parameters, US Army War College Quarterly, Autumn 2009 coins the term, “population centric COIN”. General McChrystal’s October 2009 guidance to NATO troops in Afghanistan can be reviewed at <http://smallwarsjournal.com/blog/2009/06/general-mcchyrstals-initial-gu/>

⁴⁷ JIEDDO Annual Report, FY 2007, 17.

⁴⁸ Senate Select Committee on Intelligence Holds Hearing on the Annual Threat Assessment Congressional Transcripts Congressional Hearings, CQ.com, Feb 5 2008, taken from: Wilson, Clay, *CRS report for Congress*, “IED’s in Iraq and Afghanistan: Effects and Countermeasures”, 8 Feb 2008, 2.

⁴⁹ “IED Watch”, Summary of Strategic Environment, Volume 2, Issue 8, 5.

⁵⁰ Fabrizio, 14 Jan 2010.

⁵¹ Proschaska, 14 Jan 2010.

⁵² *Marine Corps Doctrinal Publication* 1-0, 6-2.

⁵³ Lemons, from presentation to MNCI-AT/FP – accessed Oct 09.

⁵⁴ Field Manual-20-32, *Mine and Countermine Operations*.

⁵⁵ BGen Michael Brogan, USMC, quoted in an on-line Associated Press article accessed 20 Jan 2010, <http://www.military.com/news/article/gis-new-armor-too-heavy-army-says.html>.

⁵⁶ Moulton, *Military Review*, 28.

⁵⁷ Flynn, MG, “State of the Insurgency”, 11.

⁵⁸ Moulton, *Military Review*, 28.

⁵⁹ Lance Manthey, Senior Law Enforcement Professional, Tactical Training and Exercise Control Group, USMC, Twenty-Nine Palms California, in a Personal Interview 6 Dec 2009, Quantico Virginia.

⁶⁰ General James Conway, Commandant of the Marine Corps, Public Address to Marine Command and Staff College, Breckinridge Hall, Quantico, Va, 13 Jan 2010.

⁶¹ Milan Vego, “*Operational Warfare Part I*” Fundamentals, “*On Operational Art*”(Newport:Naval War College, 2000):”1-12., 1, taken from USMC C&S Operational Art Lesson 5101, 56.

⁶² Marine Corps Combat Development Command, Current Operations Advisory Support Team, Personal Interview, Quantico Virginia, 27 Jan 10.

⁶³ Major General Michael T. Flynn, Captain Matt Pottinger, USMC, and Paul D Batchelor, DIA, Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan, January 2010, 14.

⁶⁴ Col Mike Killion, MCTOG, Marine Corps Air Ground Combat Center, 29 Palms Ca, Opening Remarks to CIED Conference, Personal Notes, 18 Feb 09.

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